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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
KENNEDY, TIMOTHY J				
ART UNIT		PAPER NUMBER		
1791				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/589,134

Applicant(s)

IATAN, GEORGE

Examiner

TIMOTHY KENNEDY

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/11/2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CS-100)
Paper No(s)/Mail Date 8/11/2006, 11/20/2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed subject matter in claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in

compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balint et al (U.S. Patent 3,409,344), in view of Orito (Japan Published Application 09131733: Already of Record. Using machine translation for English equivalent) and Kinsbury (U.S. Patent 5,523,030). Regarding claim 1, Balint et al teach:

5. An injection process for forming a retroreflector on a matrix mold having a plurality of prisms that each define a cavity (column 3, lines 7-10 and Figures 3 and 10-12)

6. Balint et al do not teach:

7. Injecting a first layer of plastic on the matrix mold for partially filling up each prism up to a predetermined uniform thickness so as to define a recessed portion corresponding with each cavity of the prisms

8. Injecting a second layer of plastic onto of the first layer, the second layer filling up the recessed portion defined in each cavity of the prisms so that second layer defines a flat portion on an exterior side of the second layer.
9. In the same field of endeavor, Orito teaches a two shot injection molding process for injection molding prisms (i.e. retroreflectors). A first shot of resin is molded in cavity 5a, then a second shot of resin is molded into cavity 13a (Figures 1 and 2) which will create the flat side of the prism. This is done to mold a prism at low cost and with no molding defects.
10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the two shot prism molding technique as taught by Orito, with the retroreflector technique as taught by Balint et al, since doing so would create an injection molded product without molding defects.
11. Balint et al and Orito do no teach that the first layer injection only partially fills the mold to create a uniform thickness, and that the second layer injection fills in the recess created by the first layer partial filling.
12. In the same field of endeavor of multi layered optics Kingsbury teaches injection molding multilayer optics (Figures 6-9). It is noted that Kingsbury advises that at least one of the layers should be of uniform thickness since it would improve the optics of the system (column 3 lines 63-67 - column 4 lines 1-3 and lines 18-21). Also it would be obvious to one having ordinary skill in the art that having a first layer of uniform thickness would improve the optics since there would be no distortion of the light path due to the change in thickness of layer and the changes in the index of refraction.

13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a first layer with uniform thickness as taught by Kingsbury, using the previous method as taught by Balint et al and Orito, since doing so would improve the optical properties of the system.

14. Regarding claim 4, Balint et al further teach:

15. Each prism has a hexagonal shape (Figures 1, 4 and 5)

16. Regarding claims 5 and 6:

17. Claim 5) Each prism has a rectangular shape

18. Claim 6) Each prism has a triangular shape

19. Balint et al, Orito, and Kingsbury do not disclose a rectangular or triangular shaped prism. The shape of the prism has no affect on the function of the retroreflector since the reflection is due to the angles and slopes of the individual facets, not the shape of the configuration of the facets. The shape is thus ornamental in nature. Thus it has been found that where matters relating to ornamentation only which have no mechanical function cannot be relied upon to patentably distinguish the claimed invention from the prior art. *In re Seid*, 161 F.2d 229, 73 USPQ 431 (CCPA 1947)

20. Regarding claim 7, Kingsbury for the reasons stated previously teaches:

21. The injection process according to claim 1, further comprising the step of injecting an intermediate layer of plastic after step a) and before step b). (Figures 8-10)

22. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balint et al, Orito, and Kingsbury as applied to claim 1 above, and further in view of Rabi et al (U.S. Patent 4,120,565). Regarding claims 2 and 3:

23. Claim 2) Each prism has a side length larger or equal to 4 mm
24. Claim 3) Each prism has a side length ranging from 4 mm to 8mm
25. Balint et al, Orito, and Kingsbury do not disclose the side length of the prisms.
26. In the same field of endeavor Rabl et al teach retroreflector prisms that are around 5 mm thick, since it has been found that this is a good size for injection molding. It is the opinion of the Examiner the retroreflector of Rabl et al in Figure 9, if the thickness is around 5 mm, the side length would also be around 5 mm.
27. Balint et al, Orito, Kingsbury, and Rabl et al do not exactly disclose the claimed prism side length. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the claimed prism side length, since it has been held that where the general condition of a claim are disclosed in the prior, discovering the optimum or workable ranges involves only routine skill in the art. One would have been motivated to create sides length in that range since that size is good for injection molding.

Conclusion

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
29. U.S. Patent 3,935,359: Multilayer prism filling

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY KENNEDY whose telephone number is (571) 270-7068. The examiner can normally be reached on Monday to Friday 9:00am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571) 272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

tjk

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 1791